

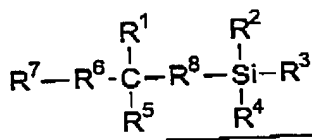
PATENT

DOCKET NO.: VTN5023
 Application No.: 10/699,417
 Office Action Dated: January 10, 2006

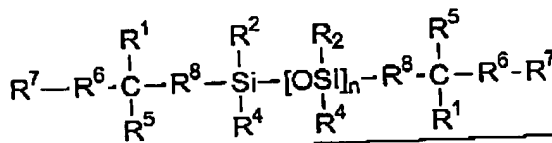
This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended). A process comprising the steps of contacting at least one silicone containing compound monomer of Formula I or II



I



II

wherein:

n is an integer between 3 and 35;

R¹ is hydrogen, C₁₋₆alkyl;

R², R³, and R⁴, are independently, C₁₋₆alkyl, triC₁₋₆alkylsiloxy, phenyl, naphthyl, substituted C₁₋₆alkyl, substituted phenyl, or substituted naphthyl

where the alkyl substituents are selected from one or more members of the group consisting of C₁₋₆alkoxycarbonyl, C₁₋₆alkyl, C₁₋₆alkoxy, amide, halogen, hydroxyl, carboxyl, C₁₋₆alkylcarbonyl and formyl, and

where the aromatic substituents are selected from one or more members of the group consisting of C₁₋₆alkoxycarbonyl, C₁₋₆alkyl, C₁₋₆alkoxy, amide, halogen, hydroxyl, carboxyl, C₁₋₆alkylcarbonyl and formyl;

R⁵ is hydroxyl, an alkyl group containing one or more hydroxyl groups; or

(CH₂(CR⁹R¹⁰)_yO)_x-R¹¹ wherein y is 1 to 5, preferably 1 to 3, x is an integer of 1 to 100, preferably 2 to 90 and more preferably 10 to 25; R⁹ - R¹¹ are independently

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selected from H, alkyl having up to 10 carbon atoms and alkyls having up to 10 carbon atoms substituted with at least one polar functional group.

R⁶ is a divalent group comprising up to 20 carbon atoms;

R⁷ is a monovalent group that can under free radical and/or ionic polymerization and comprising up to 20 carbon atoms;

R⁸ is a divalent group comprising up to 20 carbon atoms

with a supercritical fluid having a density of between about 0.2 and about 1 g/ml, decreasing said density so that two phases are formed a first phase comprising said at least one silicone containing compound and a second phase comprising at least one impurity and separating said second phase from said first phase.

2. (Original). The process of claim 1 wherein said supercritical fluid is selected from the group consisting of carbon dioxide, ethane, ethylene, propane, propylene, chlorotrifluoromethane and mixtures thereof.

3. (Original). The process of claim 1 wherein the supercritical fluid comprises carbon dioxide.

4. (Original). The process of claim 1 wherein the supercritical fluid has a density of between about 0.4 and about 0.8 g/ml.

5. (Original). The process of claim 1 wherein the contacting step comprises at least two stages a first stage and a second stage wherein the density of said supercritical fluid is lower than the density in the first stage.

6. (Original). The process of claim 5 wherein the density of the supercritical fluid in the first stage is between about 0.4 and about 0.8 g/ml and the density of the supercritical fluid in the second stage is between about 0.1 g/ml and about 0.4 g/ml.

7. (Original). The process of claim 5 further comprising at least one additional contacting stage.

8. (Original). The process of claim 5 wherein the contacting step comprises at least three stages and the density of the supercritical fluid in the first stage is between about 0.5 and about 0.7 g/ml, the density of the supercritical fluid in the second stage is between about 0.3 g/ml and about 0.5 g/ml and the density of the supercritical fluid in a third stage is between about 0.1 g/ml and about 0.3 g/ml.

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9. (Original). The process of claim 5 wherein the contacting step comprises at least four stages and the density of the supercritical fluid in the first stage is between about 0.5 and about 0.7 g/ml, the density of the supercritical fluid in the second stage is between about 0.3 g/ml and about 0.5 g/ml, the density of the supercritical fluid in a third stage is between about 0.15 g/ml and about 0.35 g/ml and the density of the supercritical fluid in a fourth stage is between about 0.1 g/ml and about 0.3 g/ml.

10. (Original). The process of claim 1 wherein said contacting step is conducted under conditions comprising pressures from about 1,000 psi to about 5,000 psi and temperatures greater than about 31°C.

11. (Original). The process of claim 1 wherein said contacting step is conducted under conditions comprising pressures from about 2,000 psi to about 3,000 psi and temperatures between about 31 and about 80°C.

12. (Canceled).

13. (Currently Amended). The process of claim 12 wherein the silicone containing compound monomer comprises at least one polymerizable group.

14. (Canceled).

15. (Currently Amended). The process of claim 14 wherein R¹ is hydrogen; R², R³, and R⁴, are independently selected from the group consisting of C₁₋₆alkyl and triC₁₋₆alkylsiloxy;

R⁵ is hydroxyl, -CH₂OH or -CH₂CHOHCH₂OH,

R⁶ is a divalent C₁₋₆alkyl, C₁₋₆alkoxy, C₁₋₆alkoxyC₁₋₆alkyl, phenylene, naphthalene, C₁₋₁₂cycloalkyl, C₁₋₆alkoxycarbonyl, amide, carboxy, C₁₋₆alkylcarbonyl, carbonyl, C₁₋₆alkoxy, substituted C₁₋₆alkyl, substituted C₁₋₆alkoxy, substituted C₁₋₆alkoxyC₁₋₆alkyl, substituted phenylene, substituted naphthalene, substituted C₁₋₁₂cycloalkyl, where the substituents are selected from one or more members of the group consisting of C₁₋₆alkoxycarbonyl, C₁₋₆alkyl, C₁₋₆alkoxy, amide, halogen, hydroxyl, carboxyl, C₁₋₆alkylcarbonyl and formyl;

R⁷ comprises a free radical reactive group selected from the group consisting of acrylate, styryl, vinyl, vinyl ether, itaconate group, C₁₋₆alkylacrylate, acrylamide, C₁₋₆alkylacrylamide, N-vinylactam, N-vinylamide, C₂₋₁₂alkenyl, C₂₋₁₂alkenylphenyl, C₂₋₁₂alkenylnaphthyl and C₂₋₆alkenylphenylC₁₋₆alkyl;

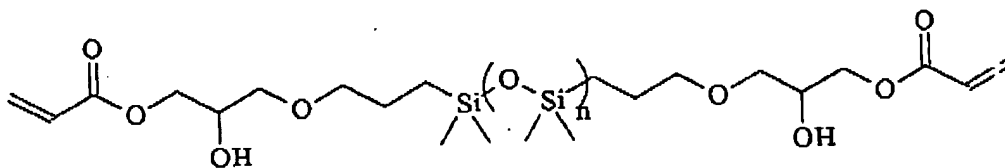
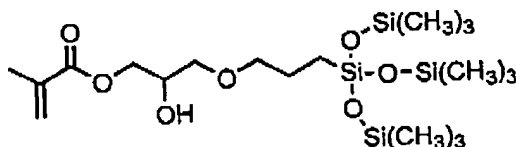
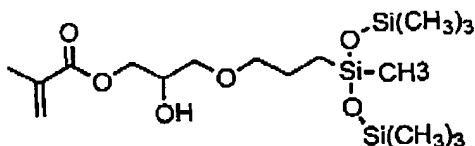
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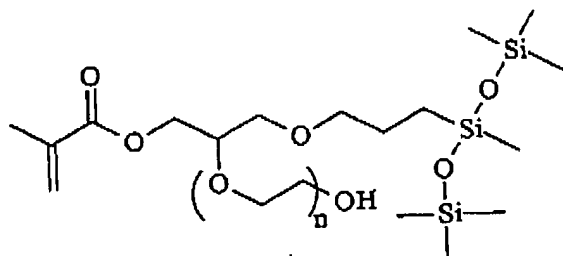
R^8 is selected from the group consisting of divalent C_{1-6} alkyl, C_{1-6} alkyloxy, C_{1-6} alkyloxy C_{1-6} alkyl, phenylene, naphthalene, C_{1-12} cycloalkyl, C_{1-6} alkoxycarbonyl, amide, carboxy, C_{1-6} alkylcarbonyl, carbonyl, C_{1-6} alkoxy, substituted C_{1-6} alkyl, substituted C_{1-6} alkyloxy, substituted C_{1-6} alkyloxy C_{1-6} alkyl, substituted phenylene, substituted naphthalene, substituted C_{1-12} cycloalkyl, where the substituents are selected from one or more members of the group consisting of C_{1-6} alkoxycarbonyl, C_{1-6} alkyl, C_{1-6} alkoxy, amide, halogen, hydroxyl, carboxyl, C_{1-6} alkylcarbonyl and formyl.

17. (Currently Amended). The process of claim 15 wherein the silicone containing compound monomer is selected from the group consisting of

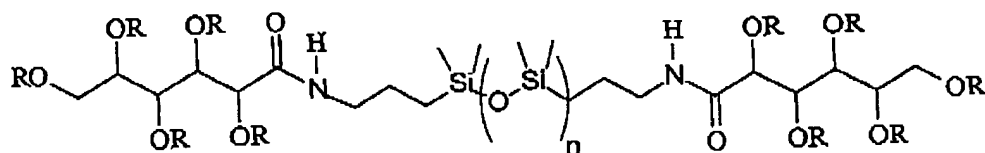


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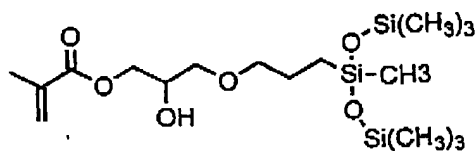


and



where $n = 1-50$ and R is independently selected from H and polymerizable unsaturated group, with at least one R is a polymerizable group, and at least one R is H.

18. (Currently Amended). The process of claim 15 wherein said silicone containing ~~compound~~ monomer comprises



19. (Canceled).

20. (Canceled).

21. (New). A process comprising the steps of contacting at least one silicone containing acrylic star copolymer or macromer with a supercritical fluid having a density of between about 0.2 and about 1 g/ml, decreasing said density so that two phases are formed a first phase comprising said at least one silicone containing compound and a second phase comprising at least one impurity and separating said second phase from said first phase.

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